Table of comparative maximum and minimum temperatures for May.

State or Territory.	Station.	For 1886.		Since establishment of station.			
		Max.	Min.	Max.	Year.	Min.	Year.
		°	°	°		°	
Alabama	Mobile	88.9	51.7	98.0	1878	47.3	1883
Do	Montgomery	93.0	49.7	98.0	1875	44.0	1883
Arizona	Prescott	92.1	33.0	90.5	1885	26.0	1877
Do	Fort Apache	96.3	33.0	93.0	1881	29.0	1880, 1883
Arkansas	Fort Smith	97.7	48.0	93.3	1883	41.5	1885
Do	Little Rock	92.3	48.5	91.0	1880	44.0	1883
California	San Francisco	85.8	47.8	86.0	1883	45.0	1876, 1879, 1880, 1882
Do	San Diego	72.3	50.0	94.0	1879	45.4	1883
Colorado	Denver	89.9	35.5	92.0	1874	27.0	1872, 1873
Do	Pike's Peak	47.0	8.0	47.0	1880	— 8.0	1875
Connecticut	New Haven	83.5	32.3	89.0	1880	30.5	1882
Do	New London	83.3	37.6	89.0	1881	32.0	1876, 1882
Dakota	Fort Buford	88.9	29.9	95.0	1880	20.0	1885
Do	Yankton	94.6	38.7	94.0	1880	24.0	1875
Delaware	Cape Henlopen	.....	.....	.....	.....	.....	.....
Do	Del. Breakwater	.....	.....	89.0	1880	40.0	1880
District of Columbia	Washington City	83.8	43.4	96.0	1880	33.5	1876
Florida	Jacksonville	91.8	55.9	98.5	1878	48.0	1877
Do	Key West	90.9	69.5	93.2	1881	63.0	1877
Georgia	Atlanta	89.6	43.6	91.0	1879	39.5	1883
Do	Savannah	93.0	53.8	98.0	1878	48.0	1877
Idaho	Boisé City	91.2	26.4	88.0	1881	29.0	1878
Do	Lewiston	.....	.....	92.0	1884	35.0	1881
Illinois	Cairo	87.6	48.5	92.0	1874	37.0	1875
Do	Chicago	82.1	39.9	89.0	1874	27.0	1875
Indiana	Indianapolis	87.1	39.1	89.0	1874, 1881	31.0	1877
Indian Territory	Fort Sill	103.5	46.7	97.0	1880	42.0	1885
Iowa	Dubuque	.....	.....	94.0	1874	25.9	1885
Do	Keokuk	86.0	40.1	92.0	1874	29.0	1875
Kansas	Dodge City	94.1	36.8	92.0	1880	13.0	1881
Do	Leavenworth	92.5	43.0	94.0	1874, 1875	31.0	1875
Kentucky	Louisville	88.5	46.2	93.0	1881	36.0	1875, 1876
Louisiana	New Orleans	90.7	57.4	90.0	1874	56.0	1871, 1877
Do	Shreveport	101.2	53.9	101.0	1875	47.0	1876, 1877
Maine	Eastport	67.4	35.4	80.0	1877	29.0	1882
Do	Portland	76.9	36.1	94.0	1880	34.0	1873, 1876
Maryland	Baltimore	87.5	45.2	95.0	1881	34.0	1876
Massachusetts	Boston	85.2	38.1	97.0	1880	31.0	1882
Michigan	Detroit	83.4	39.5	90.5	1881	29.0	1875
Do	Alpena	83.0	31.0	91.0	1874	22.0	1883
Minnesota	Duluth	84.0	41.9	91.0	1874	26.0	1870
Do	Saint Paul	84.3	33.2	94.0	1874	24.0	1875
Mississippi	Vicksburg	92.1	50.9	95.0	1874, 1877	46.0	1877
Missouri	Saint Louis	89.8	46.6	93.0	1874	32.0	1875
Montana	Fort Benton	94.5	27.4	93.0	1875	22.1	1885
Do	Helena	88.8	25.7	79.3	1885	21.9	1885
Nebraska	North Platte	91.6	36.3	94.0	1880	28.0	1885
Do	Omaha	92.9	41.0	92.0	1880	28.0	1875
Nevada	Winnemucca	88.1	19.7	86.4	1885	20.0	1879
New Hampshire	Mount Washington	49.2	18.5	62.0	1879	— 1.4	1885
New Jersey	Atlantic City	74.9	40.5	89.0	'77, '80, '81	33.0	1876, 1880
Do	Sandy Hook	86.1	45.5	93.0	1880	33.0	1874
New Mexico	Santa Fé	82.7	34.0	89.0	1872	24.0	1880
New York	Buffalo	76.6	39.0	87.0	1876	29.0	1876
Do	New York City	86.0	42.0	94.0	1880	34.0	1876, 1880
North Carolina	Charlotte	92.0	45.0	94.4	1881	40.5	1883
Do	Wilmington	93.8	47.2	95.0	1878	38.0	1876
Ohio	Cincinnati	85.9	44.5	94.0	1874, 1875	35.0	1883
Do	Cleveland	80.0	36.1	92.0	1879	28.3	1876
Oregon	Portland	88.8	36.0	94.0	1885	33.0	1878
Do	Roseburg	89.2	30.5	88.7	1885	33.0	1880
Pennsylvania	Pittsburg	88.7	40.9	95.0	1881	27.0	1876
Do	Philadelphia	86.2	43.4	96.0	1880	36.0	1880
Rhode Island	Block Island	73.2	42.0	78.3	1881	36.0	1882
South Carolina	Charleston	94.0	49.9	94.0	1878	47.0	1876
Tennessee	Knoxville	88.5	43.9	93.0	1881	37.0	1880
Do	Nashville	91.2	44.7	93.0	1874, 1879	37.0	1877
Texas	Fort Davis	97.7	41.7	101.0	1881	40.0	1880, 1884
Do	Galveston	86.8	60.4	91.0	1875, 1877	54.0	1876
Utah	Salt Lake City	92.5	31.9	91.0	1874	32.0	1880
Virginia	Lynchburg	91.1	45.2	96.0	1881	37.0	1876
Do	Norfolk	87.0	44.7	98.0	1880	38.0	1876
Washington Ter.	Dayton	.....	.....	90.0	1880	30.0	1881
Do	Olympia	82.3	30.0	87.7	1885	30.0	1882
Wisconsin	La Crosse	84.0	39.8	96.0	1874	29.5	1885
Do	Milwaukee	85.8	35.3	90.0	1874	25.0	1875
Wyoming	Cheyenne	.....	.....	88.0	1874	22.0	1884

Virginia.—Wytheville, 8th; Marion, 9th, 19th; Variety Mills and Dale Enterprise, 17th, 26th, Glendower, 26th.

Washington Territory.—Port Angeles, 1st, 2d; Roseburg, 1st, 2d, 30th, 31st; Linkville, 1st 12th; Olympia, and Walla Walla, 3d.

West Virginia.—Parkersburg, 3d, 17th, 24th, 26th; Helvetia, 9th, 17th, 26th; Clarksburg, 17th, 21st, 24th.

Wisconsin.—Neillsville, 1st, 7th, 9th, 16th, 17th, 25th; Fond du Lac, 6th, 15th, 24th; Milwaukee and Manitowoc, 7th, 16th; Evansville, 7th, 16th, 17th, 25th; Embarras, 7th, 16th, 25th, 26th; Madison, 9th, 16th.

The following reports of injury to vegetation by frosts have been reported:

Boisé City, Idaho: on the 1st a very damaging frost occurred, blighting all kinds of vegetation.

Saint Vincent, Minnesota: a sudden fall of temperature during the night of the 5–6th produced a heavy frost. Much injury was done to growing vegetables. The most serious damage occurred on the Dakota side of the river. On the night of the 14–15th a heavy frost did considerable damage to all kinds of early vegetables, and was especially destructive to spring wheat.

Garrettsville, Portage county, Ohio: a frost on the morning of the 17th did considerable injury to vegetation.

ICE.

Ice formed in the various parts of the country during May, as follows:

Arizona.—Wilcox, 14th.
California.—Fort Bidwell, 1st.
Dakota.—Fort Totten, 15th.
Iowa.—Fort Madison, 16th.
Kansas.—Allison, 14th.
Michigan.—Hudson, 7th.
Ohio.—Garrettsville, 17th.
Oregon.—Linkville, 1st.
Wisconsin.—Milwaukee and Neillsville, 16th.

PRECIPITATION.

[*Expressed in inches and hundredths.*]

The distribution of rainfall over the United States and Canada for May, 1886, as determined from the reports of about seven hundred and fifty stations, is exhibited on chart iii.

In the following table are shown, for the several geographical districts, the normal precipitation for May; the average for May, 1886, and the excess or deficiency as compared with the normal:

Average precipitation for May.

Districts.	Average for May, Signal-Service observations.		Comparison of May, 1886, with the average for several years.
	For several years.	For 1886.	
	Inches.	*Inches.*	*Inches.*
New England	3.69	3.49	—0.20
Middle Atlantic States	3.02	6.47	+3.45
South Atlantic States	3.70	4.24	+0.54
Florida Peninsula	3.47	1.13	—2.34
Eastern Gulf States	4.50	3.06	—0.44
Western Gulf States	5.12	1.04	—4.08
Rio Grande Valley	3.52	4.08	+0.56
Tennessee	3.90	3.69	—0.21
Ohio Valley	3.90	4.35	+0.45
Lower lake region	3.30	2.91	—0.39
Upper lake region	3.48	1.93	—1.55
Extreme northwest	2.87	1.83	—1.04
Upper Mississippi Valley	4.25	3.51	—0.74
Missouri Valley	4.72	3.56	—1.16
Northern slope	2.24	1.06	—1.18
Middle slope	4.56	0.73	—3.83
Southern slope	2.73	0.16	—2.57
Southern plateau	0.51	0.04	—0.47
Middle plateau	1.55	0.10	—1.45
Northern plateau	1.50	0.88	—0.62
North Pacific coast region	2.35	1.44	—0.91
Middle Pacific coast region	0.82	0.39	—0.43
South Pacific coast region	0.33	0.02	—0.31

The precipitation for the month has been in excess of the normal in the Ohio Valley and Tennessee, the middle Atlantic states, and in the region adjacent to the Alleghany Mountains; also in parts of the lower lake region and New England. The excess has been most marked in Maryland and Virginia.

In Florida and all the states bordering on the Gulf of Mexico, in the upper lakes, the Mississippi Valley, and all the country westward to the Pacific Ocean, the precipitation has been below the average for May.

The greatest deficiencies occurred in the west Gulf states and Texas, where they varied from three to eight inches and averaged about four inches. Although this region was generally deficient in rainfall during the month, Brownsville, Texas, had an excess of over three inches.

The following are some of the most marked departures from the normal precipitation at Signal Service stations:

Above normal.		Below normal.	
	Inches.		*Inches.*
Charlotte, North Carolina	7.72	Palestine, Texas	8.14
Washington City	7.62	Fort Supply, Indian Territory	6.19
Norfolk, Virginia	4.76	Fort Reno, Indian Territory	6.01
Sandy Hook, New Jersey	4.49	Fort Elliott, Texas	5.66
Baltimore, Maryland	4.07	Little Rock, Arkansas	5.31
Kitty Hawk, North Carolina	4.00	Shreveport, Louisiana	5.04
Lynchburg, Virginia	3.68	Fort Sill, Indian Territory	5.02

DEVIATIONS FROM AVERAGE PRECIPITATION.

The following table shows, for certain stations, as reported by voluntary observers, the average precipitation for the month of May for a series of years; the precipitation for May, 1886; and the departures from the average:

Station.	County.	Average precipitation for May.	Number of years.	Precipitation for May, 1886.	Departure.
		Inches.		*Inches.*	*Inches.*
Arkansas.					
Lead Hill	Boone	7.09	4	2.04	− 5.05
California.					
Fall Brook	San Diego	0.59	10	0.00	− 0.59
Sacramento	Sacramento	0.49	12	0.12	− 0.37
Connecticut.					
Canton *	Hartford	4.58	25	3.31	− 1.27
Hartford	Hartford	3.21	14	3.42	+ 0.21
Middletown *	Middlesex	3.78	28	4.19	+ 0.41
Wallingford *	New Haven	4.28	29	3.72	− 0.56
Dakota.					
Webster	Day	6.17	3	6.22	+ 0.05
Illinois.					
Anna	Union	5.40	11	3.71	− 1.69
Mattoon	Coles	5.12	6	4.98	− 0.14
Riley	McHenry	3.35	25	3.13	− 0.22
Sycamore	De Kalb	4.33	6	4.24	− 0.09
Indiana.					
Lafayette	Tippecanoe	5.37	7	7.08	+ 1.71
Logansport	Cass	3.83	30	5.20	+ 1.37
Mauzy	Rush	4.61	6	3.37	− 1.24
Vevay	Switzerland	3.87	21	4.36	+ 0.49
Iowa.					
Monticello	Jones	3.87	33	4.65	+ 0.78
Kansas.					
Independence	Montgomery	4.47	14	1.11	− 3.36
Lawrence	Douglas	4.24	18	5.72	+ 1.48
Wellington	Sumner	5.12	8	0.88	− 4.24
Yates Centre	Woodson	5.44	6	2.87	− 2.57
Maine.					
Cornish	York	2.97	29	3.71	+ 0.74
Gardiner	Kennebec	3.90	48	3.76	− 0.14
Orono *	Penobscot	3.44	18	4.67	+ 1.23
Maryland.					
Fallston	Harford	2.13	15	8.26	+ 6.13
Massachusetts.					
Amherst *	Hampshire	3.92	51	3.32	− 0.60
Cambridge *	Middlesex	3.61	45	3.19	− 0.42
Chestnut Hill *	Middlesex	2.93	11	3.41	+ 0.48
Framingham *	Middlesex	3.03	12	2.98	− 0.05
Lake Cochituate *	Middlesex	3.96	35	2.97	− 0.99
Lynn *	Essex	3.03	12	3.25	+ 0.22
Mystic Lake *	Middlesex	2.89	11	3.13	+ 0.24
New Bedford *	Bristol	3.96	73	4.39	+ 0.43
Somerset	Bristol	3.29	16	4.19	+ 0.90
Springfield *	Hampden	4.22	39	3.30	− 0.92
Taunton *	Bristol	2.55	11	4.32	+ 1.77
Waltham *	Middlesex	3.57	62	3.18	− 0.39
Williamstown *	Berkshire	2.98	19	4.77	+ 1.79
New Brunswick.					
Saint John *	Saint John	4.43	26	5.20	+ 0.77
New Hampshire.					
Concord *	Merrimac	3.07	31	2.22	− 0.85
Hanover *	Grafton	2.56	20	2.55	− 0.01
Nevada.					
Carson City	Ormsby	0.29	7	0.26	− 0.03
New York.					
Palermo	Oswego	2.67	33	1.07	− 1.60
Plattsburg Barracks	Clinton	2.00	17	1.48	− 0.52
Ohio.					
Wauseon	Fulton	4.10	14	2.69	− 1.41
Westerville	Franklin	3.62	11	4.75	+ 1.13
Pennsylvania.					
Dyberry	Wayne	3.19	7	4.41	+ 1.22
South Carolina.					
Stateburg	Sumpter	3.13	6	3.13	0.00
Texas.					
New Ulm	Austin	5.85	14	0.05	− 5.80
Vermont.					
Lunenburg *	Essex	3.58	39	2.37	− 1.21
Newport *	Orleans	3.99	12	4.57	+ 0.58
Strafford *	Orange	3.08	12	2.90	− 0.18
Virginia.					
Bird's Nest	Northampton	3.12	18	7.70	+ 4.58
Dale Enterprise	Rockingham	3.76	6	12.66	+ 8.90
Variety Mills	Nelson	3.31	7	8.22	+ 4.91
West Virginia.					
Helvetia	Randolph	4.34	10	7.08	+ 2.74

* From the "Bulletin of the New England Meteorological Society."

The following notes in connection with this subject are furnished by voluntary observers:

California.—Sacramento, Sacramento county: the largest rainfall in May during the last twelve years was 2.90, in 1883; no rain fell during the month of May, 1885.

Fall Brook, San Diego county: the greatest rainfall for May in the past ten years was 1.87 in 1883.

Illinois.—Riley, McHenry county: the total precipitation for the spring of 1886, 10.57, is 1.98 more than the mean of twenty-five preceding springs; only three springs, 1861, 1868, and 1882, had more precipitation.

Indiana.—Mauzy, Rush county: the maximum May rainfall during the past six years occurred in 1882, 8.00; minimum in 1885, 2.00.

Vevay, Switzerland county: the greatest precipitation in any May during the past twenty-one years was 11.80, in 1865; least, 0.52, in 1874.

Iowa.—Monticello, Jones county: the greatest May rainfall during the past thirty-three years occurred in 1858, 7.97; least in 1874, 0.76.

Kansas.—Independence, Montgomery county: during the past fourteen years the rainfall for May has been less than that (1.11) of this month, but twice, viz., 0.88 in 1874, and 0.98 in 1879. The rainfall for the five months ending May 31st, 10.83, is 4.16 below the average for the last thirteen years.

Yates Centre, Woodson county: the rainfall for the spring months, 6.40, is 2.63 below the mean of the past six years.

New York.—Palermo, Oswego county: the greatest May rainfall during the past thirty-three years was in 1864, 6.50; least in 1870, 0.30.

Ohio.—Westerville, Franklin county: the greatest May rainfall during the last eleven years occurred in 1882, 8.43; least in 1879, 1.65.

Wauseon, Fulton county: the greatest rainfall for any May during the last fourteen years was in 1880, 6.25; least in 1877, 1.14. The total precipitation of this spring, 7.44, is 2.33 below the normal.

South Carolina.—Camden (near Kirkwood), Kershaw county: the rainfall for the month is greater than that of any May in the last twenty years, and is more than double the average for the same period.

Texas.—New Ulm, Austin county: the largest rainfall in any May during the last fourteen years was in 1884, 15.25; least in 1886, 0.05. The normal spring precipitation of the past fourteen years is 5.10; the total precipitation for the spring of 1886, 2.27, is 2.83 below the normal.

Virginia.—Dale Enterprise, Rockingham county: more rain fell in this month than has fallen in any May during the past six years; the least May rainfall was 1.74, in 1881.

Variety Mills, Nelson county: the rainfall for this month, 8.22, exceeds that of any month during the past seven years except October, 1885, when it was 10.76, and March, 1884, when it was 8.78.

SNOW.

The dates on which snow fell in the various states and territories are as follows:

Colorado.—Fort Lewis, 13th; Pike's Peak, 14th to 17th, 19th, 20th, 26th, 28th.

Dakota.—Bismarck, Fort Buford, and Deadwood, 1st.

Kansas.—West Leavenworth, 2d, 3d.

Michigan.—Marquette, 6th; Thornville, 15th; Mackinaw City, 16th.

Minnesota.—Saint Vincent, 14th.

Montana.—Fort Missoula and Poplar River, 1st; Fort Ellis, and Fort Maginnis, 1st, 12th, 13th; Helena, 1st, 13th; Fort Assinaboine, 10th, 12th, 13th.

New Hampshire.—Mount Washington, 2d, 4th, 8th, 11th, 16th, 25th, 26th, 27th.

Oregon.—Lakeview, 8th, 9th, 10th.

MONTHLY SNOWFALLS.

[*Expressed in inches and tenths.*]

Monthly snowfalls of one inch or more were reported from the various states and territories during the month, as follows:

Colorado.—Pike's Peak, 3.3.

Dakota.—Fort Buford, 5; Fort Sully, 3.

Montana.—Poplar River, 1.6.

New Hampshire.—Mount Washington, 12.4.

SNOW ON GROUND AT END OF MONTH.

The only station reporting snow on the ground at the end of the month was Pike's Peak, Colorado, where snow remained to a depth of six inches.

HAIL.

Hail storms have been reported as follows:

Osage City, Osage county, Kansas: a heavy rain and hail storm occurred in this part of Kansas on the 6th. It continued thirty minutes, covering the ground with hail several inches deep. Eighty per cent. of the exposed window-glass on the north side of the dwellings was broken. The rainfall was very heavy, flooding the country and doing considerable damage to growing crops.

Florence, Morgan county, Missouri: a hail storm in the vicinity of this place did great damage to property on the 6th. Fruit trees and growing crops were beaten down by the hail, which was succeeded by heavy rain.

Louisville, Kentucky: a thunder-storm, with hail, passed north of the city on the afternoon of the 6th. Hail, the size of marbles fell, breaking numerous windows and sky-lights; gardens and farm crops also suffered from the effects of the hail.

Memphis, Tennessee: at Fitzgibbon's Grove, a station a few miles from the city, on the Louisville and Nashville railroad, a heavy hail storm occurred on the afternoon of the 6th. The hail, which was the size of quail-eggs, is reported to have drifted in places ten inches deep. Vegetation of all kinds was damaged, trees being left entirely stripped of leaves.

Protem, Taney county, Missouri: a severe hail storm is reported to have occurred in Ozark and Douglas counties, Missouri, on the afternoon of the 6th; the stones were of unusual size and penetrated common board roofs.

Variety Mills, Nelson county, Virginia: the voluntary observer at this place reports, concerning hail storms which occurred this month, as follows:

The violent and destructive hail storms of May, 1886, deserve special mention. By far the worst occurred on the 11th, about 6 p. m. Its effects began not far from the northern extremity of Nelson county; the storm travelled towards the southeast. *Width of hail storm, from two to three miles.* In this belt forests were stripped of their foliage till the trees were almost or quite bare. Hail fell as large as pullets' eggs and of a jagged and irregular shape. Clover, nearly ready to cut, was beaten to pieces, and the wheat crop entirely destroyed. Two vineyards, several miles apart, lost their entire crops, the owner of one estimating his loss at $4,000. Some consider that $75,000 will not cover the loss for the county. The hills remained whitened with hail for many hours after the storm. Some drifts were said to be many feet in thickness.

Another hail storm, following nearly the same track, occurred on the 23d, about 2 p. m. The hailstones were of smaller size, and not much damage resulted.

Bonne Terre, Saint Francois county, Missouri: a heavy rain andh ail storm passed over this part of the country on the afternoon of the 11th. Hailstones fell in great numbers and of large size, many being the size of goose eggs. The Saint Joseph Works boiler house was riddled. Great damage was done to crops.

Terre Haute, Vigo county, Indiana: a severe wind and hail storm occurred at this place on the afternoon of the 12th. Many windows in houses and street cars were broken. A number of trees and small houses were blown down; the storm was general in the adjacent country. Garden vegetation was destroyed and field crops injured.

Yankton, Dakota: hail fell in considerable quantities on the afternoon of the 12th, during the prevalence of a thunder-storm. The hail varied in size from one-quarter to three-quarters of an inch in diameter. Some of the stones were composed of a nucleus of snow surrounded by a film of ice; others were oblong in shape, having compact snow in one end and solid ice in the other. Some slight damage was done to windows and plants.

Cincinnati, Ohio: at 6.40 a. m. of the 12th, during a heavy thunder storm, hail fell nine-tenths of an inch in diameter.

Forest, Clinton county, Indiana: a hail storm occurred at this place on the 12th. The hailstones were reported to have been nine ounces in weight and twelve inches in circumfereuce. Great damage was done to growing crops and to the windows of stores and dwellings.

Rockford, Winnebago county, Illinois: on the 12th, at 5.30 p. m., large hailstones, two to three inches in diameter, fell. The hail storm continued fifteen minutes.

Charleston, Illinois, 12th: five miles north of this place wind and hail did considerable damage to property. The hailstones were the size of marbles and fell in large quantities.

Reidsville, Rockingham county, North Carolina: on the 12th a thunder-storm, accompanied by high wind and destructive hail, occurred at this place. The hailstones covered the ground to a depth of four inches some of them being as large as hen's eggs. All of the windows in fifteen tobacco factories and in most of the dwellings were broken. Many trees and houses were thrown down by the wind.

Terra Haute, Vigo county, Indiana: on the 23d a disastrous hail-storm occurred at this place and over the surrounding country. In this county alone it is estimated that the number of acres of wheat injured or completely destroyed by hail will reach $5,000. The damage to fruit is still more serious, one vineyard being injured to the extent of $2,500. In Washington township, north of Plainfield, it is reported that the hailstones were three inches in diameter, and covered the ground to a depth of one foot. Large numbers of sheep and hogs were killed. Farmers state that wheat, which was just heading out, was totally ruined. The growing corn was badly damaged, and in some instances farmers will have their whole crop to plant over. Apple, pear, and cherry trees were stripped of their fruit, and gardens were completely ruined.

Danville, Hendricks county, Indiana: a wind and hail-storm passed over this county on the afternoon of the 23d, doing much damage. Hailstones, measuring two inches in diameter, fell to the depth of six inches. Many houses had all windows broken by hail. The greatest damage was to the growing wheat crop, then in full head, it having been wholly destroyed along the track of the storm.

Columbus, Ohio: a very heavy thunder-storm, accompanied by hail, began at 7.03 p. m. of the 24th. Hailstones, the size of cherries, fell at intervals during the storm, damaging gardens and farm crops on the outskirts of the city.

Findlay, Hancock county, Ohio: on the night of the 24–25th a heavy wind and hail-storm passed over this county, doing great damage to wheat and fruit. Some places in the country the hailstones covered the ground and were as large as hen's eggs. Limbs were torn from trees and small fruits were entirely destroyed. The storm was accompanied by heavy thunder and vivid flashes of lightning.

Millersburg, Holmes county, Ohio: a violent and destructive hail storm visited this place shortly before midnight of the 24th. The storm came from the northwest and continued one hour. Hailstones as large as bird's eggs were piled in corners, and the damage to grapes and other fruits was serious. The storm was accompanied by heavy thunder and sharp lightning.

Tiffin, Ohio, was visited by a severe hail and wind storm about 4 p. m. of the 24th, which did much damage to growing fruit and crops.

Anna, Union county, Illinois, was visited by a hail storm at 5.30 p. m. of the 27th. The storm came from the west very suddenly after a sultry day. Hailstones as large as eggs were reported to have fallen, being driven in a slanting direction by the high wind which accompanied the storm. Public school buildings, churches, and almost every dwelling in town had a large proportion of exposed window glass shattered. Wheat, corn, and growing crops generally suffered severely from the hail.

Wytheville, Wythe county, Virginia: on the 27th a thunder-storm, attended by high wind and destructive hail, occurred at this place. The hail was particularly disastrous to wheat.

Hail was also reported to have fallen in the various states and territories during the month, as follows:

Arkansas.—Little Rock, 9th; Fort Smith, 14th, 23d.

California.—Fort Bidwell, 8th.

Colorado.—Montrose and Pike's Peak, 31st.

Dakota.—Webster, 3d, 12th; Fort Abraham Lincoln, 8th; Huron, 8th, 16th; Fort Sully, 12th; Yankton, 14th, 25th; Fort Buford, 27th.

Georgia.—Milledgeville, 15th.

Idaho.—Cœur d'Alene, 9th, 11th.

Illinois.—Anna, 5th, 11th, 27th; Sandwich, 8th, 12th; Chicago, 9th, 12th, 15th; Windsor, 10th, 12th, 14th, 20th; Rockford, Mattoon, and Charleston, 12th; Riley, 12th, 15th; Geneseo, 22d.

Table of excessive and greatest monthly precipitation for May, 1886.

Station.	Specially heavy. Date.	Amt.	Largest monthly. Amount.
Alabama.			
Roanoke	18	4.05	7.97
Scottsborough	6, 7	2.97	
Opelika	18, 19	2.09	
Calera	18	2.20	
Livingston	18, 19	2.48	
Birmingham	19	2.06	
Auburn	18, 19	2.04	
Carrollton	18, 19	2.65	
Florence	5, 6	2.02	
Do	19, 20	2.47	
Gadsden	18, 19	2.75	
Lineville	18	2.20	
Univerity of Ala	18, 19	2.10	
Tuscumbia	6, 7	2.10	
Dakota.			
Webster	7, 8	2.08	6.22
Yankton	12	2.08	
Dist. of Columbia.			
Washington City	7, 8	4.49	10.60
Distrib'g Res'voir	8, 9	3.55	9.75
Do	23	3.04	
Kendall Green	7, 8	4.12	9.20
Receiving Res'voir	8	2.40	8.56
Do	23	2.03	
Florida.			
Live Oak	18, 19	3.82	
Georgia.			
Mossy Creek			9.81
Marietta			9.81
Babun Gap			8.90
Gainesville *a*			8.05
Toccoa	18, 19	5.21	7.62
Athens *a*	18, 19, 20	5.85	7.44
Gainesville *b*	18, 19	4.20	7.25
Dahlonega			6.92
Athens *b*	18, 19, 20	5.43	6.84
Augusta	18, 19	4.76	6.29
Atlanta	18, 19	4.76	6.21
Camak	19, 20	3.92	
Washington	18, 19, 20	3.70	
Jessup	19, 20	2.98	
Smithville	18, 19	2.03	
Millen	19, 20	2.08	
Waycross	18, 19, 20	3.14	
Savannah	30, 31	3.42	
Alapaha	19, 20	3.41	
West Point	18, 19	3.00	
Griffin	18, 19	4.54	
Newnan	18, 19	3.40	
Forsyth	18, 19	3.41	
Indiana.			
Lafayette	12, 13	2.54	7.08
Summan	10, 11, 12	3.19	6.09
Spiceland	12	2.40	
La Grange	13, 14	2.00	
Logansport	14, 15	2.15	
Iowa.			
Oskaloosa	3, 4	2.44	
Independence	9, 10	2.00	
Monticello	8, 9	2.45	
Kansas.			
West Leavenworth	11	2.70	10.80
Do	13, 14	3.00	
Fort Scott	6	5.00	6.20
Wyandotte	11	2.02	
Maryland.			
Fallston	7, 8	4.76	8.26
Great Falls	8, 9	2.00	7.77
Do	23	2.20	
Woodstock	7, 8	4.00	7.36
Baltimore	6, 7, 8	4.17	7.07
Fort McHenry	7, 8	3.80	6.86
McDonogh	7, 8	3.13	
Massachusetts.			
Williamstown	8	2.16	
Michigan.			
Kalamazoo	9, 10	2.27	
Thornville	14, 15	2.08	
Mississippi.			
Edwards	18, 19	2.12	
Waynesborough	18, 19	2.60	
Missouri.			
Springfield	5, 6	6.20	9.30
Do	29, 30	2.00	
Saint Louis	6	2.10	7.84
Do	14	3.33	
Pleasant Hill			6.65
Sedalia			6.51
Chamois			6.23
Steelville			6.20
Lamar	5, 6	2.41	
Warrensburg	11	2.30	
Nebraska.			
Marquette			6.27
New Jersey.			
Egg Harbor City	7, 8	3.45	
Do	19, 20	2.06	15.07
Do	24	4.50	
New Jersey—Con.			
Sandy Hook	8	3.30	8.46
Do	13, 14	2.00	
Beverly	7, 8	4.16	8.08
Moorestown			6.80
Phillipsburg	7, 8	2.87	6.24
Upper Montclair	8	2.32	6.20
Dover	8	3.08	6.07
Roseland			6.01
Princeton	7, 8	2.42	
Paterson	7, 8	2.66	
New York.			
New York City	8	2.66	6.53
Do	12, 13	2.80	
White Plains	7, 8	2.33	
Mountainville	7, 8	2.10	
North Carolina.			
Salisbury	18, 19, 20	9.43	13.06
Lincolnton	18, 19, 20	8.30	11.96
Charlotte	18, 19, 20	8.25	11.04
Flat Rock	18, 19	3.68	9.47
Statesville	18, 19 20	5.65	8.91
Kitty Hawk	1, 2	4.25	7.27
Reidsville	19, 20	3.70	6.57
Lenoir	18, 19, 20	3.30	6.20
Wash Woods			6.00
Goldsborough	31	2.24	
Ohio.			
College Hill	11, 12, 13	5.75	8.25
Columbus	12, 13	2.47	7.67
North Lewisburg	12, 13, 14	4.05	7.55
Jacksonborough			6.40
Yellow Springs	12, 13	4.32	6.27
West Milton	11, 12	4.50	6.00
Cincinnati	11, 12	2. 6	
Pennsylvania.			
Drifton	7, 8	3.95	8.00
Catawissa	7, 8	2.98	7.19
Do	12, 13	2.19	
Easton	7, 8	3.08	7.14
West Chester	7, 8	3.71	7.00
Quakertown	5, 6, 7	3.75	6.66
Zionsville	7, 8	3.00	
Dyberry	7, 8	2.50	
Bethlehem	7, 8	2.83	
Blooming Grove	7, 8	3.40	
South Carolina.			
Spartanburg *a*	18, 19, 20	9.40	13.60
Pacolet	17 to 20	11.98	13.23
Spartanburg *b*	18, 19, 20	8.67	11.99
Anderson	19, 20	8.22	10.39
Columbia	19, 20	7.41	9.41
Greenville	18, 19, 20	5.87	8.36
Greenwood	18, 19, 20	6.96	8.28
Chester	18, 19, 20	4.30	7.68
Allendale	20	2.41	
Batesburg	19, 20	3.05	
Blackville	20	2.84	
Saint Georges	20	2.00	
Branchville	20	2.05	
Cheraw	20	2.03	
Florence	20	2.24	
Kirkwood	20	3.88	
Stateburg	20	2.87	
Tennessee.			
Brownsville	5, 6, 7	6.63	8.52
Greeneville	28	6.80	7.80
Caryville	5, 6, 7	3.15	7.72
Bolivar	5, 6, 7	3.56	7.56
Do	19, 20	3.50	
Savannah	5, 6, 7	4.80	7.14
Covington *a*	6, 7	3.4	7.05
Andersonville	5, 6	2.02	6.06
Chattanooga	6, 7	2.68	
Fostoria	18, 19	2.50	
Cookville	5, 6	2.30	
Trenton	6, 7	2.17	
Covington *b*	7, 8	3.65	
Texas.			
Brownsville	3	3.48	6.57
Do	16, 17	2.94	
San Antonio	2	2.36	
Vermont.			
Newport	25, 26	2.11	
Virginia.			
Dale Enterprise	7, 8	4.04	12.66
Do	13, 14	2.94	
University of Va	7, 8	3.32	9.66
Accotink	7, 8	3.30	8.72
Bruington	31	2.15	8.64
Norfolk	1, 2	3.42	8.32
Variety Mills	6, 7	3.49	8.22
Bird's Nest	31	2.35	7.70
Cape Henry	1	2.26	7.25
Lynchburg	7, 8	2.76	6.74
Chincoteague			6.18
West Virginia.			
Helvetia	7	2.12	7.08
Parkersburg	13	2.13	

Indiana.—Jeffersonville, 6th, 10th; Summan and Knightstown, 10th; Spiceland, 12th; Logansport, 12th, 14th; Vevay, 12th, 23d; Indianapolis and La Grange, 23d.

Indian Territory.—Fort Reno, 14th.

Iowa.—Des Moines, 3d; Bancroft, 8th, 10th, 21st; Monticello, 8th, 12th; Logan and Independence, 8th, 12th, 22d; Keokuk and Clinton, 9th; Cresco, 15th; Oskaloosa, 16th.

Kansas.—Allison, 1st, 6th; Manhattan, 4th; Salina, 4th, 6th, 28th; Wakefield, 4th, 11th, 13th, 14th; Yates Centre and Fort Scott, 6th; Concordia and Lawrence, 11th; Wyandotte, 11th, 23d; Leavenworth and West Leavenworth, 13th; Independence and El Dorado, 14th; Ottawa, 23d.

Kentucky.—Frankfort, 13th; Richmond, 13th, 23d; Louisville, 23d.

Maine.—Kent's Hill, 30th.

Maryland.—Fort McHenry, 6th.

Michigan.—Thornville and Traverse City, 26th.

Missouri.—Conception, 3d, 8th; Warrenton, 5th; Springfield, 5th, 6th, 23d, 30th; Lamar, 6th, 14th; Saint Louis, 14th.

Montana.—Fort Benton, 1st; Fort Assinaboine, 1st, 6th; Helena, 7th, 8th; Fort Missoula, 10th; Fort Shaw, 10th 12th; Poplar River, 11th; Fort Ellis, 12th, 13th; Fort Maginnis, 13th.

Nebraska.—North Platte, 1st; Omaha, 3d, 9th; Genoa, 9th; Crete, 9th, 22d; Marquette, 12th; Fort Sidney, 27th, 29th.

Nevada.—Carson City, 30th.

New Hampshire.—Woodstock, 20th.

New Jersey.—Beverly, 27th.

New Mexico.—Fort Union, 24th.

New York.—Albany, 22d, 30th; Ithaca and Humphrey, 25th; Mountainville, 26th.

North Carolina.—Reidsville, 12th; Flat Rock, 24th.

Ohio.—College Hill, 6th, 13th; Columbus, 10th; Cincinnati and Yellow Springs, 12th; Jacksonborough, 12th, 22d; Toledo, 23d, Westerville, Tiffin, Napoleon, and Fostoria, 24th.

Oregon.—Linkville and Pendleton, 8th.

Pennsylvania.—Grampian Hills, 10th; Drifton, 11th, 16th, 20th, 22d; Dyberry, 16th; Quakertown, 20th; Philipsburg, 23d; Pittsburg, 24th; Zionsville, 26th.

South Carolina.—Spartansburg, 6th, 22d, 24th, 28th.

Tennessee.—Austin, 6th; Knoxville, 10th, 24th; Paris, 14th; Nashville, 21st.

Texas.—Abilene, 1st.

Virginia.—Bird's Nest, 6th; Dale Enterprise, 6th, 11th; Variety Mills, 7th, 11th, 24th; Wytheville, 17th.

Washington Territory.—Fort Spokane, 8th; Bainbridge Island, 8th, 27th; Neah Bay, 14th; Tatoosh Island, 15th.

West Virginia.—Clarksburg, 12th.

Wisconsin.—Milwaukee, Evansville, and Fond du Lac, 15th.

SLEET.

Pike's Peak, Colorado, 13th, 21st, 28th.
Mount Washington, New Hampshire, 3d.

COTTON REGION REPORTS.

A system of temperature and rainfall observations was begun in the spring of 1882 in the cotton growing districts of the South. These observations have been continued since in each year from April to October, inclusive. This year the observations were not resumed until April 10th.

In the following table are given the average rainfall and the means of the maximum and minimum temperatures for the several districts, as shown on the chart issued with the REVIEW for April, 1882. For the purpose of comparison the averages for these districts during the four preceding years are also given. A comparison of these figures shows a great deficiency of rainfall in the districts of Galveston, Little Rock, New Orleans and Vicksburg, while in the districts of Atlanta and Augusta a marked excess occurs. The means of the maximum and minimum temperatures are higher than the normal in nearly all the districts, but the departures are slight, except in the districts of Little Rock and Galveston, where the means of the maximum temperature for May, 1886, exceeded the normal by more than 4°; and the means of the minimum temperatures exceeded the normal by 2°.5 for the district of Galveston, and by 4°.7 for the district of Little Rock: